

Message Text

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ACTION OES-09

INFO OCT-01 EUR-12 NEA-10 ISO-00 ACDA-12 CIAE-00
INR-10 IO-13 L-03 NSAE-00 NSC-05 EB-08 NRC-05
SOE-02 DODE-00 DOE-15 SS-15 SP-02 CEQ-01 PM-05
SAS-02 AGRE-00 /130 W
-----015512 092132Z /73

R 081222Z SEP 78
FM AMEMBASSY NEW DELHI
TO SECSTATE WASHDC 3865
INFO AMEMBASSY BONN
AMEMBASSY VIENNA

C O N F I D E N T I A L NEW DELHI 13704

FOLLOWING RECD FROM BOMBAY, SENT NEW DELHI DATED SEPT 8, 1978
BEING RPTD TO YOU.

QUOTE

C O N F I D E N T I A L BOMBAY 2243

E.O. 11652: GDS
TAGS: TECH, MNUC, IN, US, GW
SUBJECT: INDIAN HEAVY WATER PRODUCTION

REF: (A) NEW DELHI 12210 (NOTAL); (B) BONN 9790

1. FOLLOWING INFORMATION PROVIDED BY THREE CONTACTS IN WHOM WE HAVE
REASON TO HAVE CONFIDENCE. ONE IS MANAGER OF A LARGE CONCERN WHICH
HOLDS SUBSTANTIAL CONTRACTS WITH IAEC FOR TWO HEAVY WATER PLANTS
SECOND IS AN ENGINEER WITH PRIVATE FIRM WHO HAS WORKED ON KOTAH
AND TALCHER, THIRD IS HIGH GOI OFFICIAL WHO RECENTLY COMPLETED A
TWO YEAR DAWAIL AT THE IAEC.

2. ALL THREE SAY THAT HW PLANTS AT KOTAH, TALCHER AND TUTICORIN
ARE SUBSTANTIALLY COMPLETED. LATTER TWO ARE READY FOR EXPERIMENTAL
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RUNS AND COULD BECOME OPERATIONAL WITHIN SIX MONTHS. KOTAH WILL
NOT BE READY FOR EXPERIMENTAL RUN UNTIL EARLY SPRING OF '79 AS
FURTHER WORK MUST BE DONE IN TYING TOGETHER THE THREE ESSENTIALLY
SEPARATE PROCESSES IN THIS PLANT WHOSE RAW MATERIAL IS NATURAL
WATER FROM A NEARBY LAKE. THE TALCHER AND TUTICORIN PLANTS
OF COURSE ARE LOOP TYPE INSTALLATIONS TIED INTO FERTILIZER PLANTS.
THEY CAN OPERATE AS SOON AS THE FERTILIZER INSTALLATIONS COME ON

STREAM.

3. SOURCES FROM THE PRIVATE SECTOR SAY THERE IS NO REASON TO DOUBT PM'S ESTIMATE THAT DAMAGE TO BARODA HW PLANT WILL BE REPAIRED BY OCTOBER '79. THEY SAY ACCIDENT RESULTED FROM A LEAK OF HYDROGEN UNDER VERY HIGH PRESSURE (1,000 LB. PSI) WHICH CAUSED FLASH FIRE OF ENORMOUS INTENSITY BUT OF SHORT DURATION. DAMAGE WAS LARGELY LIMITED TO INSTRUMENTATION, CONTROLS, AND WIRING. MAJOR STRUCTURES WERE LARGELY UNDAMAGED. ALL OF DAMAGE WAS IN THE HW LOOP WITH FERTILIZER PLANT ITSELF NOT AFFECTED. AS COMPRESSORS ARE LOCATED IN FERTILIZER PARTS OF INSTALLATION NO NEW COMPRESSORS WILL BE NEEDED. MOST OF INSTRUMENTATION WILL HAVE TO BE PROCURED ABROAD BUT WIRING AND MOST CONTROLS ARE BEING OBTAINED LOCALLY. CONGEN SOURCES ARE NOT ABLE TO GIVE PRECISE LISTS OF EQUIPMENT UNDER PROCUREMENT.

4. CONGEN RECEIVED CONFLICTING INFORMATION AS TO SOURCE OF COMPRESSORS FOR KOTAH. OUR ENGINEER FRIEND SAID HE SAW THE COMPRESSORS ALREADY INSTALLED AT KOTAH AND COULD SAY THEY ARE LARGE WITH AN ESTIMATED 1,500 HORSEPOWER EACH. HE BELIEVED THEY WERE OF EAST EUROPEAN ORIGIN, PROBABLY EAST GERMAN. HE HAS ALSO SEEN THE COMPRESSORS AT TALCHER WHICH ARE IN THE FERTILIZER INSTALLATION THERE WHICH HAS SUPPLIED BY CZECHS. HE ADMITTED THAT THE CZECHS COULD HAVE GOTTEN THEM FROM ANOTHER EAST EUROPEAN COUNTRY.

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5. ON THE OTHER HAND THE GOI OFFICIAL BELIEVES THAT THE KOTAH COMPRESSORS HAVE BEEN MADE LOCALLY PROBABLY ON THE BASIS OF AN EAST GERMAN DESIGN. CONGEN PRIVATE INDUSTRY SOURCES SAY THAT IT IS ALTOGETHER POSSIBLE THAT THESE LARGE COMPRESSORS WERE MADE BY BHEL WHICH HAS THE TECHNOLOGY AND CAPACITY FOR SUCH FABRICATION. HOWEVER, MY PRIVATE INDUSTRY SOURCES BOTH THOUGHT THAT BHEL WOULD BE MOST RELUCTANT TO SET UP PRODUCTION FOR SUCH LIMITED DEMAND.

6. OUR TWO TECHNICAL SOURCES THOUGHT THAT IT WOULD BE A LONG SLOW PROCESS IN GETTING HEAVY WATER PRODUCTION UP TO CAPACITY* EVEN THOUGH THEY ARE CONFIDENT ABOUT ULTIMATE RESULTS. THEY KNOW THAT THE CURRENT DELAYS AT TUTICORIN STEM FROM PROBLEMS WITH THE FERTILIZER PLANT RATHER THAN THE HW LOOP. THEY ALSO POINT OUT THAT TALCHER HW PLANT IS BASED ON UNTRIED UHDE (FRG COMPANY) TECHNOLOGY AND IS HOOKED TO A CZECH DESIGNED COAL GASIFICATION PLANT. WITH SUCH A TECHNICAL BASE THEY SAY THAT IT WOULD BE MOST OPTIMISTIC TO PREDICT AN EARLY REACHING OF CAPACITY OUTPUT AT TALCHER. THEIR EXPERIENCE WITH KOTAH-TYPE PLANTS SUGGESTS THAT THERE WILL ALSO BE SUBSTANTIAL DELAYS IN REACHING CAPACITY OPERATION AT THAT PLANT. ON BALANCE THEY BELIEVE THE TOTAL INDIAN PRODUCTION OF HEAVY WATER IN 1979 WILL NOT SURPASS 100 TONS EVEN THOUGH THE END OF THAT YEAR SHOULD SEE ALL FIVE INDIAN HW PLANTS

WITH A COMBINED CAPACITY OF 300 TONS IN OPERATION.

7. IF THIS FORECAST PROVES CORRECT IT PORTENDS REAL DIFFICULTIES FOR THE IAEA'S ATOMIC POWER PROGRAM AS OUR GOI SOURCE SAYS THAT HWS LOSSES AT RAPP I ARE RUNNING AT 18 PERCENT RATHER THAN THE PROJECTED 8.5 PERCENT. AS A RESULT, INDIA'S POOL OF HEAVY WATER HAS BEEN SERIOUSLY DEPLETED. EVEN THOUGH RAPP II HAS NOW BEEN COMPLETED, ACCORDING TO OUR SOURCE, IT HAS NOT BEEN CHARGED BECAUSE EVEN WITH RUSSIAN HEAVY WATER AVAILABLE FOR THE INITIAL CHARGE THERE WOULD BE NO WAY TO MAKE FOR ANNUAL 18 PERCENT LOSS WITHOUT SUBSTANTIAL DOMESTIC PRODUCTION ON STREAM.

8. CONGEN ENGINEERING SOURCES HOWEVER MAINTAIN THAT THESE ARE ONLY TEMPORARY SETBACKS AND BY 1980 INDIA HW PRODUCTION WILL REACH
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AN ANNUAL RATE OF OUTPUT OF 300 TONS. THEY ALSO BELIEVE THAT LOSSES AT RAPP WILL BE REDUCED TO MORE NORMAL LEVELS AS INDIA GAINS EXPERIENCE IN RUNNING THE CANDU REACTORS.

COURTNEY

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GOHEEN

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Message Attributes

Automatic Decaptioning: X
Capture Date: 01 jan 1994
Channel Indicators: n/a
Current Classification: UNCLASSIFIED
Concepts: SCIENTIFIC COOPERATION, PRODUCTION, HEAVY WATER
Control Number: n/a
Copy: SINGLE
Draft Date: 08 sep 1978
Decaption Date: 01 jan 1960
Decaption Note:
Disposition Action: RELEASED
Disposition Approved on Date:
Disposition Case Number: n/a
Disposition Comment: 25 YEAR REVIEW
Disposition Date: 20 Mar 2014
Disposition Event:
Disposition History: n/a
Disposition Reason:
Disposition Remarks:
Document Number: 1978NEWDE13704
Document Source: CORE
Document Unique ID: 00
Drafter: n/a
Enclosure: n/a
Executive Order: GS
Errors: N/A
Expiration:
Film Number: D780368-0514
Format: TEL
From: NEW DELHI
Handling Restrictions: n/a
Image Path:
ISecure: 1
Legacy Key: link1978/newtext/t19780988/aaaacvbt.tel
Line Count: 142
Litigation Code IDs:
Litigation Codes:
Litigation History:
Locator: TEXT ON-LINE, ON MICROFILM
Message ID: dc3b1054-c288-dd11-92da-001cc4696bcc
Office: ACTION OES
Original Classification: CONFIDENTIAL
Original Handling Restrictions: n/a
Original Previous Classification: n/a
Original Previous Handling Restrictions: n/a
Page Count: 3
Previous Channel Indicators: n/a
Previous Classification: CONFIDENTIAL
Previous Handling Restrictions: n/a
Reference: 78 NEW DELHI 12210, 78 BONN 9790
Retention: 0
Review Action: RELEASED, APPROVED
Review Content Flags:
Review Date: 25 may 2005
Review Event:
Review Exemptions: n/a
Review Media Identifier:
Review Release Date: n/a
Review Release Event: n/a
Review Transfer Date:
Review Withdrawn Fields: n/a
SAS ID: 1504170
Secure: OPEN
Status: NATIVE
Subject: INDIAN HEAVY WATER PRODUCTION
TAGS: TECH, MNUC, IN, US, GE
To: STATE
Type: TE
vdkgvwkey: odbc://SAS/SAS.dbo.SAS_Docs/dc3b1054-c288-dd11-92da-001cc4696bcc
Review Markings:
Sheryl P. Walter
Declassified/Released
US Department of State
EO Systematic Review
20 Mar 2014
Markings: Sheryl P. Walter Declassified/Released US Department of State EO Systematic Review 20 Mar 2014